

2017-12-08

Costs and benefits of mobility: the case of Chinese seafarers

Tang, Lijun

<http://hdl.handle.net/10026.1/10481>

Routledge

All content in PEARL is protected by copyright law. Author manuscripts are made available in accordance with publisher policies. Please cite only the published version using the details provided on the item record or document. In the absence of an open licence (e.g. Creative Commons), permissions for further reuse of content should be sought from the publisher or author.

Costs and benefits of mobility: the case of Chinese seafarers

Lijun Tang¹, Gang Chen²

Abstract

By its very nature, seafaring is a highly mobile occupation as it entails sailing across seas and oceans. Furthermore, the globalization of the shipping industry has made it commonplace that seafarers work on ships flying foreign flags and owned and managed by foreign shipping companies. It leads to a global seafarer labour market and seafarers become transnational workers. Accompanying this, however, is the rise of precarious employment – seafarers are likely to be employed on voyage contracts. In a sense, seafarers' employment is becoming mobile. This chapter discusses some issues related to various forms of seafarers' mobility.

Introduction

This chapter discusses issues of mobility related to seafarers. Seafarers are mobile primarily because of their workplace – ships, which transport cargo from one port to another across seas and oceans. Their mobility is further enhanced by the fact that rather than confined to the national fleet, many seafarers work on ships flying foreign flags and owned and managed by foreign shipping companies. This enhanced mobility is related to the practice commonly known as flagging-out in the shipping industry, which allows ship owners/managers to register their ships in Flag of Convenience (FOC) countries, such as Liberia and Panama, and to employ seafarers from any labour supply countries without restrictions and on short-term contracts. As such, this enhanced mobility results in widespread temporary employment in shipping. When seafarers are hired on a short-term basis, their employment becomes precarious, and they may have to move frequently to the next contract, maybe with a different employer. This can be understood as employment mobility. In the first two sections, drawing up existing literature we discuss the first two types of mobility and the negative effects on seafarers. The remaining parts discuss some consequences of employment mobility through examining the social security coverage of Chinese seafarers.

Mobile workplace

As merchant ships sail at sea, seafarers have to be away from home as well as from land for a period of time, which results in intermittent separation from their families. The separation period can be between a few weeks to more than a year, depending on many factors, such as types of ships, and seafarers' rank and nationality.

¹ Postgraduate School of Management, Plymouth University, UK

² Wuhan University of Technology, China

Working at sea means seafarers are confined to their ships and suffering from social isolation (Sampson and Thomas 2002). Furthermore, shipboard working environment is full of hazards, such as noise, vibration, ship movement, heavy machinery, steel structure, and long working hours; when things get wrong in the middle of vast oceans, such as bad weather, illness, and engine failure, it is difficult to get help from the outside world and seafarers have to rely on themselves. Unsurprisingly, the safety record of the shipping industry has been a concern of the stakeholders (Bloor et al. 2000). For example, Danish research suggested that Danish fleet seafarers were about six times more likely to die from occupational accidents compared with Danish workers ashore in modern days (Hansen 1996; Borch et al. 2012).

Being confined to ships and cut off from the rest of the world, seafarers have limited means to communicate with their families ashore, and are unable to participate in family activities (Tang 2007). Consequently, they are likely to miss many important family and social events, for example, children growing up, and celebrations of birthdays and festivals. This exacerbates the sense of social isolation on ships.

More importantly, working at sea and intermittent separation poses problems for intimate and personal relationships. According to Baumeister and Leary (1995), intimate relationships entail both physical proximity, as well as frequent and pleasant interactions in a continuous and shared temporal framework. Sharing time together is believed to be good for relationships, and in fact the most enjoyable time for couples has been reported to be leisure time spent together (Sullivan, 1996). For seafarers and their spouses, intermittent separation makes longing for each other's company a painful but frequent experience (Tang 2012). Furthermore, seafarers' intermittent absence also means that they are not able to spend time with their friends, which makes it difficult for them to sustain friendships at home (Thomas 2003). As a consequence, seafarers often feel socially isolated when they are home.

From the perspective of seafarers' spouses, apart from longing for their beloved ones, they also suffer from a series of problems related to seafarers' absence. They have to manage everything at home without support from their spouses. Also due to separation, seafarers' spouses feel that they live different lifestyles and have different experiences from other women whose partners work ashore. As a consequence, they tend to separate themselves from others and felt that non-seafaring people could not fully appreciate and understand their situation, which in turn leads to social isolation (Tang 2007; Thomas 2003).

Due to these problems, seafaring is not regarded as an attractive vocation. People from developed countries are reluctant to find a career at sea and ship managers there have to look elsewhere for alternatives (Grey 1991; Wallis 2009). In fact, the number of seafarers from OECD countries has reduced dramatically since the 1970s. This reduction is also related to flagging out and the rise of the global seafarer labour market, to which we turn next.

Mobile capital

The second type of mobility is related to flagging out. Until around the late 1960s, the majority of ship-owners registered their ships in home countries and employed domestic seafarers. As much of the maritime business was operated and owned by ship-owners from the advanced economies, such as the UK, Japan and Norway, these States were widely known as the Traditional Maritime Nations (TMN) which generally imposed high standards for admitting ships in their registries and maintained stringent regulatory practices (Alderton and Winchester, 2002). However, from the mid-1960s, flagging out started to gain momentum, as the transfer of assets to a FOC provided several benefits for ship-owners. First, the regulatory framework of FOCs offered ship-owners a set of relaxed regulatory requirements, thus lowering labour, safety and environment standards in the industry. Second, it brought about a competitive cost advantage, such as low registration fees and tonnage tax (DeSombre, 2006). Furthermore, FOCs did not impose any restriction on the nationality of seafarers, the ship-owners increasingly began to employ low-wage seafarers from new labour-supply nations, such as from the East European, East and South East Asian countries. This enabled consolidation of economic advantage by engaging in increased cross-border activity and exploitation of various resources. It also gives rise to a global seafarer labour market (Alderton et al. 2004; ILO 2001).

The global labour market leads to enhanced mobility of seafarers. Needless to say, this enhanced mobility is driven by the mobility of shipping capital which aims to cut cost and maximise profit. As such, while mobile shipping capital brings much needed job opportunities to newly emerging seafarer supply countries, it also has negative impacts on the working and employment conditions in the industry. To save running costs, ship owners/managers increasingly employ cheaper seafarers from new labour-supply nations on short-term contracts, which serves to end the practice of permanent employment. Research evidence shows that the ‘majority of seafarers worked on contracts covering a single voyage or tour of duty’ which was typically between five and 12 months but some were for longer, and employers thus have no obligation towards the seafarers’ future employability (ILO 2001: 64; see also Kahveci and Nichols 2006).

Accompanying the structural change of the industry is technological advancement (ILO 2001). Ship operations have become more automated, which led to significant reductions in crew size. Adoption of new technology, however, is not necessarily globally synchronised. Morris and Donn (1997) examined the relationship between new technology and industrial relations in United States and Australian shipping. They found that strong resistance from maritime unions coupled with public policies protecting and subsidising national fleets made fleet modernisation in the two countries about 15 to 20 years lagging behind other OECD countries. This finding suggests that when they were strong, national maritime unions played an important role in protecting seafarers’ jobs. However, Morris and Donn also noted that as US and Australian governments leaned towards neoliberalism economic policies in the 1980s,

maritime trade unions could no longer resist technological changes in shipping. Furthermore, the rise of FOCs has dwindled national fleets of OECD countries significantly, which also weakens the influence of national unions. As such, the average crew size of Australian merchant navy fleet was reduced from 35 in 1982 to 16 in 1994 (Morris and Donn 1997).

Technological innovations have also made ships sail faster and greatly reduced port turnaround time (Kahveci 1999). In one typical port, the data suggested that vessel berth time on average was cut from 138.50 hours in 1970 to about 15.75 in 1998 (Kahveci 1999). Even though technology makes some ship operations less demanding, it can hardly replace manpower in berthing and un-berthing operations. Reduction in crew size and turnaround time means that there are fewer people but less time to do the same amount of work, which inevitably results in work intensification (IMO 2001; Kahveci 1999). Thus, it is not surprising that fatigue has been a serious concern in the industry for many years and subject to extensive research and discussion (Smith 2007).

The above discussion does not imply that protecting seafarers' rights and improving working and employment conditions have been overlooked. The International Transport Workers' Federation (ITF) provides union support to the seafarers at the global level, and it has been working at the trans-national level successfully, bargaining for seafarers' wages by negotiating with seafaring unions in traditional maritime nations and in new labour supply nations (Lille 2005). In 2006, the International Labour Organization adopted the Maritime Labour Convention (MLC) to protect seafarers and promote decent work in this sector. It imposes regulatory requirements on issues related to working and living conditions on ships, employment conditions, and welfare and social security. In 2013, the Convention came into force globally. The effect of MLC enforcement on labour standards, however, remains to be seen.

As mentioned, the global seafaring labour market is characterized by precarious employment, which can be regarded as employment mobility. Research in land-based industries indicates that employers in general do not buy social insurance for temporary and contracted labour (Smith 2005). This question arising here is what problems employment mobility might pose on the MLC implementation. In remaining sections of this article, we address this question using the case of Chinese seafarers as an example.

Mobile employment

The case of Chinese seafarers

China is a major seafaring labour supply country and at the same time controls a large national fleet. According to the most recent BIMCO Manpower Report (2015), China has become the top seafarer labour supply country with 243,635 seafarers, followed by the Philippines with 215,000 seafarers. Other major seafarer supply countries are Indonesia (143,702), Russia (87,061), India (86,084) and Ukraine (69,000). However, according to Chinese official statistics (MSA 2016), in 2015, a total number of 638,990 Chinese held valid seafarer certificates³, and 133,326 of them worked on foreign ships. The majority of Chinese seafarers are still from relatively richer coastal provinces, such as Shandong, Jiangsu, Zhejiang, Fujian, and Guangdong, though some inland provinces, such as Hubei and Henan, also produce a large number of seafarers (MSA 2016).

Over the last three and half decades or so, the employment of seafarers has undergone significant transformations in China. First, Chinese seafarers started to work on foreign ships in 1979, and the following decades witnessed a growing number of them deployed overseas. Second, the transition from a planned economy to a market one which started in the early 1980s opened the market for private shipping companies and crewing agencies to crop up and grow. As a result, employment of seafarers has been diversified. Third, when the employment market was monopolized by state- or local government-owned shipping companies, Chinese seafarers were employed for life and their welfare was looked after by their employers. With the deepening of the market reform, seafarers' employment was gradually changed to contract based. Thus, in the 1990s, seafarers working at state- or local government-owned shipping companies had permanent or long-term contracts, while those working for private ship owners and crewing agencies were likely to have short-term contracts, 3-5 years, for example. At the same time, a group of 'freelance' seafarers also appeared in the labour market who secure employment through crewing agencies on contracts covering a tour of duty only. Therefore, the employment of Chinese seafarers is no longer universally fixed for life to state owned companies, and a range of employment practices co-exist and compete with each other today. Needless to say, seafarers are more mobile when their contract length is shorter as they are more likely to change employers frequently.

Research evidence in the early 2000s suggested that working on foreign ships was much more attractive than on the national fleet as the former offered higher salary and more job opportunities (Wu 2004). Consequently, many seafarers employed by state-owned shipping companies wanted to break free from their employers in order to work for crewing agencies. This resulted in a rapid increase in the number of freelance seafarers who worked for crewing agencies on tour-of-duty contracts (Wu, Lai, & Cheng 2006). State-owned shipping companies, however, did not want to lose their workforce. To retain seafarers, they were reported to control their seafarers' certificates (Wu, Lai, & Cheng 2006; Zhao 2011): when seafarers are on leave, their company would collect their certificates to make sure that they would not be able to work

³ It is unknown why there is a big discrepancy between the BIMCO figure and the MSA one. One contributory factor could be that while some people hold valid certificates, they do not work at sea any more.

for other companies. Nevertheless, it is fair to say that Chinese seafarers increasingly choose to be highly mobile for better pay and job opportunities.

It is also important to note that the changes related to seafarers' employment take place in the bigger context of the transformation of employment relations in China. Until the early 1990s, workers were in general employed permanently without contracts. In 1996, the *Labour Law* came into force, which introduced a labour contract system. The main purpose of this contract system was to 'smash the iron rice bowl', which referred to life-long employment. Gradually, permanent employment is replaced with one that is contract-based, even though some contracts are open-ended.

In 2008, China's new *Labour Contract Law* (LCL) came into effect, providing more protections for labour. It requires all workers to have a written contract, and stipulates that an open-term labour contract is deemed in effect if an employee has successfully concluded two consecutive fixed-term contracts or has worked for the employer for one year without a written contract. It also requires employers to contribute to their employees' social insurance, and social insurance should be included in the employee's labour contract. There are five types of social insurance, all of which are predominantly provided through employers: pensions, medical, unemployment, work injury, and maternity insurances. Both employers and employees are required to make financial contributions to the social insurance programs. Another important employment-based benefit, the housing provident fund, was established in 1994 to help employees establish personal housing fund accounts and increase housing affordability as housing became privatized and housing prices rose drastically. The administration and financing of the housing provident fund are similar to those for the social insurance programs, with both employers and employees making regular payments.

According to this LCL, seafarers should have contracts and their employers should make contributions to their social insurance. As such, in terms of welfare and social security, the LCL arrangement would satisfy the requirements of MLC 2006. In this context, an examination of the LCL implementation in relation to Chinese seafarers will shed light on the implementation of MLC, and problems associated with the LCL implementation are likely to be encountered by MLC implementation as they are similar in terms of requirements on employment conditions.

In relation to this issue, a study of Chinese seafarers' rights and protection was conducted in 2014. A total number of 37 shipping and crewing companies from five provinces, Fujian, Hubei, Guangdong, Liaoning and Henan, participated in the study, and the managers were interviewed between June and October of 2014. The next section reports some findings from these interviews. It is worth noting here that these accounts are from managers' perspective.

Social insurance and mobility

To make sense of issues related to seafarers' social security, it is necessary to explain the common seafarer employment practices in China. This is because the data suggests that seafarers' social insurance coverage is closely linked to their employment status.

The separation between operation management and crew management is commonplace in shipping. Ship managers crew their ships through either in-house crew management departments or third-party crewing agencies. This practice results in a supply chain of crewing service. The companies participated in this study represent an entire chain. On top of the chain are shipping companies whose ships are manned through either in-house crew management arms or third-party crewing agencies or a combination of both. Apart from manning their own fleet, many of the in-house crew management arms also provide crewing service to third-party shipping companies. Those that provide crewing service directly to third-party shipping companies can be seen as occupying the second tier in the supply chain. A few big crewing agencies also subcontract some service to smaller crewing agencies who are on the bottom tier of the supply chain.

Among the 37 companies participating in the study, apart from one shipping company that does not employ seafarers directly but outsources crewing service from agencies, the rest 36 companies are engaged in crew management. For convenience, both in-house crew management arms and third party crewing agencies are referred to as crew management companies.

It is common that crew management companies employ and differentiate between two groups of seafarers. The first group are commonly referred to as 'company-owned' seafarers. They are employed on medium-term contracts, and the contract length varies, ranging from 3 to 6 years. Upon the completion of the first contract, 'company-owned' seafarers can have open-ended contracts if they so choose. In a sense, this group of seafarers form the relatively stable pool of workforce. The second group can be regarded as temporary workforce, consisting of seafarers employed on tour-of-duty contracts. They are commonly known as self-employed or freelance seafarers in the spot labour market. The ratio between the two groups varies among these companies. While some companies outsource less than 10 percent of their workforce from the spot market or next tier agencies, one crewing agency 'owns' only 20 percent of their workforce on medium-term contracts.

In general, crew management prefer to keep officer seafarers on medium-term contracts, while outsource ratings from next tier agencies or the spot labour market. According to the managers interviewed, this is because there is a shortage of officers and an oversupply of ratings in the

market. As bigger crewing agencies tend to outsource ratings, there are also subcontractor agencies specialized in providing ratings. One subcontractor participated in this study keeps only 20 percent of their workforce on medium-term contracts, while outsource the rest 80 percent from the spot market.

What are the differences between the ‘company-owned’ workforce and the temporary one from the perspective of companies? The main difference is costs. One cost that can be saved by outsourcing is leave pay. For ‘company-owned’ seafarers on medium-term contracts, the company needs to pay them ‘at service’ salary when they are working at sea, and leave pay when they are taking leave ashore. By contrast, if a company outsource crewing service from a third-party agency or the spot market, the company only needs to pay seafarers for the period working on ships.

Another cost that can be saved is social insurance fees. According to the interviewed companies, they buy social insurance for all those ‘company-owned’ employees to fulfil the legal obligation under the LCL. If they outsource crewing service, they shift this legal obligation down the supply chain to the next tier crewing agencies or freelance seafarers. Again the next tier agencies only buy social insurance for their ‘company-owned’ pool of workforce. For freelance seafarers temporarily employed from the spot market, while some companies make it clear that they pay a social insurance subsidy into seafarers’ salaries, others do not but leave the social insurance matter to the seafarers themselves. In a sense, freelance seafarers tend to be treated as self-employed; and as they are employers of themselves, they are responsible for their own social insurance.

In fact, social insurance, if paid in full and in proportion to income, is quite expensive. One company complained that social insurance was a heavy financial burden to them, up to 42.2 percent of crewing costs, which meant that seafarers could only get 57.8 percent of what their employer paid into their accounts. Table 1 below is a breakdown of different types of social insurance that a typical state company employee would have. It shows that the employee would contribute 26 percent of his/her salary into social insurance, and that employer would contribute another 52 percent. In total, an employee’s social insurance is worth 78 percent of his/her salary.

Table 1: A typical example of social insurance that state companies buy for employees

Social insurance type	Employee contribution (as percentage of salary)	Company contribution (as percentage of salary)	Total
Pension	8%	20%	28%
Medical insurance	2%	14%	16%
Unemployment insurance	1%	2%	3%
Work injury insurance	0	0.8%	0.8%
Maternity insurance	0	0.2%	0.2%
Housing provident fund	15%	15%	30%
Total	26%	52%	78%

Therefore, if companies do not arrange social insurance for freelance seafarers, they would be more able to offer a higher salary. In fact, interviewees mentioned that freelance seafarers in spot market preferred that their temporary employers paid them higher salary instead of buying social insurance for them. Employers are happy to do that. As such, freelance seafarers in the spot market in general are not covered by social insurance, but their salaries are higher than others who are.

There is another issue related to social insurance. Although all interviewed companies stated that they bought social insurance for ‘company-owned’ seafarers, they took different approaches to adjust the ratio between social insurance and seafarer salary. State owned big companies choose to buy full social insurance for their employees, but pay a lower salary. By contrast, other companies may choose to buy social insurance of the lowest possible standard and pay a higher salary to seafarers. Inevitably, complaint about the lower salary by seafarers at state owned big shipping companies is commonplace. According to these companies, they face the huge challenge of losing their workforce to other crewing companies and the spot market where seafarers enjoy a higher salary. They complained that they had become the seafarer training base for others – once they had trained seafarers up, these seafarers would want to leave for higher salaries.

It is fair to say that social insurance serves to differentiate and segment the seafaring labour market in China. On one end, state owned companies provide more stable employment, full social insurance coverage, but lower salary. On the other, freelance seafarers are highly mobile and take precarious employment for higher salary with no social insurance.

Costs and benefits

The above discussion suggests a tension between salary and social insurance. Salary is more visible because it is immediately available and can be used at present. As a contrast, the benefit of social insurance is less visible as it helps mitigate future risks and takes effect in future. For current or short-term gains, seafarers may choose higher salary with lower or no social insurance coverage. Although it is a legal obligation for companies to buy social insurance for their employees, they nevertheless cater for seafarers' demand in order to attract sufficient workers.

Wu, Lai, and Cheng's (2006) data suggested that the number of freelance seafarers grew rapidly between 2000 and 2004, from 4,000 to more than 30,000. As seafarers were unsatisfied with the salary offered by state owned companies, once they had completed their first contracts many of them chose to leave these companies and become freelancers. Although no recent data about the number of freelance seafarers are available, it is reasonable to assume that a large proportion of seafarers are now freelance.

High mobility carries risks, which is manifested more visibly when occupational injury or death occurs at sea. Even though maritime safety has been improving continuously (Allianz 2012), seafaring remains a relatively dangerous occupation (Hansen 1996; Roberts and Marlow 2005 Borch et al. 2012). Therefore, occupational health and safety incidents on ships do happen from time to time, and happen more frequent than in other workplaces. In one participating crew management company which employed about 2,600 seafarers, about 10 cases of work related illness, injury, death occurred each year, and they tried to contain the accident rate below 0.5 percent. According to the manager, their 'company-owned' seafarers were covered by ship owners' P&I clubs, personal accident insurance bought by the crew management company, and social insurance; and by contrast, freelance seafarers were protected only by the first two and did not have social insurance. In this situation, if accidents occurred, the needs and expectations of victims in the first group and their families could be satisfied by compensation; but for freelance seafarers, it was be a different story and for a few times accidents had led to conflicts between seafarers and the crew management company. This problem also existed in other companies.

To be sure, lack of social insurance can also lead to other problems which may not be concerns of management companies and therefore were not mentioned by managers during the interviews. For example, without pension, freelance seafarers may not have a stable income when they reach retirement. Furthermore, when they get sick while not working on ships, they are not covered by medical insurance.

This is not to suggest that despite the lower salary, state owned companies are better because they fulfill the obligations without discount regarding their employees' social security. The point here is that LCL implementation is not problem free. Even though it is a legal requirement under the LCL that employers should arrange and contribute to social insurance of employees, in practice it is often avoided in relation to freelance seafarers. Lured by higher salary and immediate gains, seafarers take risks and disregard possible future consequences of not having social insurance. Employers take advantage of and cater for freelance seafarers' risk behavior in order for successful recruitment from the spot market. In other words, no or low social insurance has become a competitive edge serving to attract the flow of seafarers. When accidents happen, however, treatment and compensation can become a headache for both employers and employees.

Conclusion

By its very nature, working at sea is an occupation associated with mobility. The globalization of the shipping industry has enabled the mobility of shipping capital. Partially due to this double mobility, the workforce at sea is increasingly and predominantly drawn from the developing regions, such as the Philippines, China, South Asia, and Eastern European countries. Accompanying this transformation is the rise of precarious employment. All forms of mobility have consequences for seafarers' well-being.

In this context, the MLC 2006 has been adopted and come into effect with the aim to protect seafarers' rights and well-being. It regulates working and living conditions on ships, employment conditions, and welfare and social security.

In China, the LCL, which has been in force since 2008, similarly requires employers to arrange and contribute to employees' social insurance. The compliance however varies. State owned companies, for political reasons, may comply with regulation in full; but other companies may lower the standards or avoid it completely so that they are able to offer higher salaries to seafarers. In this way, social insurance may serve to segment the labour market and be used to create a competitive edge in recruitment. Lured by higher salary in the spot market, seafarers break away from medium-term or open contracts with former employers to become freelance and embrace employment mobility, resulting in a mobile workforce without social insurance.

This article examines the issue based on managers' accounts only. From seafarers' perspective, there are perhaps more issues cropping up. Nevertheless, this does not blur the main issue here, that is, mobility may make LCL implementation problematic in China. This message may also be relevant to the implementation of MLC, because the global seafaring labour market is characterized by employment mobility. Crew management's pursue for cost cutting and

seafarers' pursue for immediate gains may make MLC implementation problematic especially in relation to social security.

References:

- Alderton, T., Bloor, M., Kahveci, E., Lane, T., Sampson, H., Thomas, M., Winchester, N., Wu, B. and Zhao, M. (2004). *The Global Seafarer: Living and Working Conditions in a Globalised Industry*. Geneva: International Labour Office.
- Alderton, T. and Winchester, N. (2002) 'Globalisation and de-regulation in the maritime industry'. *Marine Policy*, 26: 35-43.
- Allianz (2012) *Safety and Shipping 1912-2012: From Titanic to Costa Concordia*. http://www.agcs.allianz.com/assets/PDFs/Reports/AGCS_safety_and_shipping_report.pdf
- Baumeister, R.F. and Leary, M.R. (1995) 'The Need to Belong: Desire for Interpersonal Attachment as a Fundamental Human Motivation', *Psychological Bulletin* 117: 497-529.
- Bloor, M., Thomas, M. and Lane, T. (2000) 'Health risks in global shipping industry: an overview'. *Health, Risk and Society*, 2(3): 329-340.
- Borch, D.F., Hansen, H.L., Burr, H. and Jepsen, J.R. (2012) 'Surveillance of deaths onboard Danish merchant ships, 1986-2009'. *Occupational and Environmental Medicine*, 63(1): 7-16.
- DeSombre ER (2006) *Flagging Standards: Globalization and Environmental, Safety, and Labour Regulations at Sea*. Cambridge MA: MIT Press.
- Grey, M. 1991. "Hong Kong Shipowner to Train Chinese Cadets: Wah Kwong to Teach Seafarers from C." *Lloyd's List*, June 26.
- Hansen, H.L. (1996). 'Surveillance of deaths onboard Danish merchant ships, 1986-93: implications for prevention'. *Occupational and Environmental Medicine*, 53: 269-275.
- ILO (2001) *Impact on seafarer's living and working conditions of changes in the structure of the shipping industry*, ILO, Geneva.
- Kahveci, E. (1999) *Fast Turnaround Ships And Their Impact On Crews*, SIRC: Cardiff University.
- Kahveci E and Nichols T (2006) *The Other Car Workers: Work, Organisation and Technology in the Maritime Car Carrier Industry*. New York: Palgrave Macmillan.
- Lillie, N., 2005. Union networks and global unionism in maritime shipping. *Relations Industrielles/Industrial Relations*, pp.88-111.
- Morris, R and Donn, C (1997). *New technology and industrial relations in United States and Australian shipping*, *New Technology, Work and Employment*, 12, 2, 136-145.

- MSA. 2016. Statistical Information of Seafarers. Accessed March 1, 2017. <http://www.mot.gov.cn/2016wangshangzhibo/2016zhuanli3/xiangguanlianjie/201606/P020160624526276061516.pdf>
- Roberts, S.E. and Marlow, P.B. (2005). 'Traumatic work related mortality among seafarers employed in British merchant shipping, 1976-2002'. *Occupational and Environmental Medicine*, 62: 172-180.
- Sampson, H. and Thomas, M. (2002). The social isolation of seafarers: causes, effects, and remedies. *International maritime health*, 54(1-4), 58-67.
- Smith A (2007) Adequate Crewing and Seafarers' Fatigue: The International Perspective. Cardiff University: Centre for Occupational and Health Psychology.
- Smith, V., 2015. Employment Uncertainty and Risk. In: Edgell, S., Gottfried, H. and Granter, E. (eds.) *The SAGE Handbook of the Sociology of Work and Employment*. London Sage pp.367-384.
- Sullivan, O. (1996) 'Time Co-ordination, the Domestic Division of Labour and Affective Relations: Time Use and the Enjoyment of Activities within Couples', *Sociology* 30(1): 79-100.
- Tang, L. (2007) 'The "Presence" of the Absent Seafarers: Predicaments of Seafarer-Partners', *SIRC Symposium 2007*, Cardiff University, July.
- Tang, L., 2012. Waiting together Seafarer-partners in cyberspace. *Time & society*, 21(2), pp.223-240.
- Thomas, M. (2003) *Lost at Sea and Lost at Home: the Predicament of Seafaring Families*. Cardiff: SIRC.
- Wallis, K. 2009. "Japan Owners Launch China Joint Training Centre." *Lloyd's List*, August 19.
- Wu, B. 2004. "Participation in the global labour market: experience and responses of Chinese seafarers." *Maritime Policy & Management* 31(1): 69-82.
- Wu, B., Lai, K. H., and Cheng, T. E. 2006. "Emergence of 'new professionalism' among Chinese seafarers: empirical evidence and policy implications." *Maritime Policy & Management* 33(1): 35-48.
- Zhao, Z. (2011). *The Human Resource Strategies of Chinese State Crewing Agencies with Special Reference to Labour Export and the Experience of Chinese Seafarers*. PhD Thesis, Cardiff University. <http://www.sirc.cf.ac.uk/Uploads/Thesis/Zhao.pdf>